

**C l a i m s**

1. A method for cleaning a stationary gas turbine unit during operation, said unit comprising a turbine, a compressor (16) driven by the turbine, having an inlet (E), an air inlet duct arranged upstream of the air inlet of the compressor, the inlet duct having a part (15) of the duct adjoining the inlet of the compressor and having decreasing cross section in the flow direction in order to give the air flow a final velocity at the inlet (E) to the compressor (16), a spray of cleaning fluid being introduced in the inlet duct (15), **c h a r a c t e r i s e d i n** that the cleaning fluid is forced through a spray nozzle (32) with a pressure drop exceeding 120 bar to form a spray the drops of which have a mean size that is less than 150  $\mu\text{m}$ , the spray being directed substantially parallel to and in the same direction as the direction of the air flow, and in that the spray is introduced at a position (23) in the duct section (16) where the air velocity is at least 40 per cent of the final velocity at the compressor inlet (E), so that the drops of the liquid spray acquire a slip ratio of at least 0.8 at the compressor inlet (E).
2. A method as claimed in claim 1, **c h a r a c t e r i s e d i n** that the fluid spray is established so that a substantial proportion of its drops have a mean size within the interval 50-150  $\mu\text{m}$ .
3. A method as claimed in claim 2, **c h a r a c t e r i s e d i n** that the fluid spray drops are given a mean size of around 70  $\mu\text{m}$ .
4. A method as claimed in any one of claims 1-3, **c h a r a c t e r i s e d i n** that the fluid spray is established by the cleaning fluid being forced through a spray nozzle with a pressure drop less than 210 Bar.

5. A method as claimed in any one of the preceding claims,  
**characterised in** that the fluid spray is established by the  
cleaning fluid being forced through a nozzle with a pressure drop of  
5 around 140 Bar.
  
6. A method as claimed in any one of the preceding claims,  
**characterised in** that the fluid spray drops are caused to acquire  
a slip ratio of at least 0.9 at the compressor inlet.

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